# Contents Volume 86, 1991

Fossils, Models and Climate — Preface
A. M. Ziegler (Chicago, IL, USA) ..... 1
Late Ordovician and Early Silurian rugose coral biogeography and world reconstruction of palaeocontinents
Wang Hongzhen and Chen Jianqiang (Beijing, P.R. China) ..... 3
Migration, origination and extinction of Southern Hemisphere brachiopods during the middle Carboniferous
P. H. Kelley (University, MS, USA) and A. Raymond (College Station, TX, USA) ..... 23
The Fujita–Ziegler model: a new semi-quantitative technique for estimating paleoclimate from paleogeographic maps
E. D. Gyllenhaal, C. J. Engberts, P. J. Markwick, L. H. Smith and M. E. Patzkowsky (Chicago, IL, USA) ..... 41
Application of the Fujita–Ziegler paleoclimate model: Early Permian and Late Cretaceous examples
M. E. Patzkowsky, L. H. Smith, P. J. Markwick, C. J. Engberts and E. D. Gyllenhaal (Chicago, IL, USA) ..... 67
Phytogeography and paleoclimatic interpretation of the Maestrichtian
M. A. Horrell (Chicago, IL, USA) ..... 87
Mathematical model of faunal spreading in benthic palaeobiogeography (applied to Cenozoic Tethyan molluscs)
G. Piccoli (Padova, Italy), S. Sartori (Milano, Italy), A. Franchino (Milano, Italy), R. Pedron (Padova, Italy), L. Claudio (Padova, Italy) and A. R. Natale (Padova, Italy) ..... 139
Atmospheric methane ratio and environmental changes in the Sahara and Sahel during the last 130 kyrs
N. Petit-Maire (Marseille, France), M. Fontugne (Gif-sur-Yvette, France) and C. Rouland (Creteil, France) ..... 195
Late Quaternary vegetation history of the South-Tanganyika Basin. Climatic implications in South Central Africa
A. Vincens (Marseille, France) ..... 207
Holocene–Upper Pleistocene radiolarian biogeography and paleoecology of the equatorial Pacific
D. Boltovskoy (Buenos Aires, Argentina) ..... 227
Phosphatic hardgrounds and stromatolites from the limestone/shale boundary section at Prossilion (Maastrichtian–Paleocene) in the Parnassus–Ghiona Zone, Central Greece
F. Pomoni-Papaioannou (Athens, Greece) and N. Solakius (Lund, Sweden) ..... 243
Glacial to interglacial contrasts in the calcium carbonate content and influence of Indus discharge in two eastern Arabian sea cores
P. Divakar Naidu (Goa, India) ..... 255
Area of mixed marine faunas between two major paleogeographical realms, exemplified by the Early Jurassic (Late Sinemurian and Pliensbachian) ammonites in the Alps
J.-L. Dommergues (Dijon, France) and C. Meister (Genève, Switzerland) ..... 265
Tertiary palaeoclimatic history of the southeastern Colorado Plateau
K.-H. Schmidt (Berlin, Germany) ..... 283
Palynology of Holocene top-set aggradational sediments of the Fraser River Delta, British Columbia
H. F. L. Williams (Denton, TX, USA) and R. J. Hebda (Victoria, B.C., Canada) ..... 297
Les Rhynchonellidés du Calcaire à gryphées d'Hettange (Sinémurien — NE France): étude des peuplements et enregistrement des variations du paléoenvironment [Rhynchonellids (Brachiopoda) of the "Calcaire à gryphées" from Hettange (Sinemurian — NE France): communities and environmental change]
Y. Alméras (Villeurbanne, France) and M. Hanzo (Vandœuvre-lès-Nancy, France) ..... 313
Intermediate steps of southwards faunal shifts testified by last glacial submerged thanatocoenoses in the Atlantic Ocean
M. Taviani (Bologna, Italy), P. Bouchet (Paris, France), B. Metivier (Paris, France), M. Fontugne (Gif-sur-Yvette, France) and G. Delibrias (Gif-sur-Yvette, France) ..... 331
Sedimentation patterns of the Talchir Group in the Giridih Gondwana basin, India: A case of multiple glacial advance and retreat
D. P. Sen (Kharagpur, India) ..... 339